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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/686,277 | 10/14/2003 | Scott C. Moose | 85435THC | 7227 |

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| EXAMINER |
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BAREFORD, KATHERINE A

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| ART UNIT | PAPER NUMBER |
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1762

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,277

Applicant(s)

MOOSE, SCOTT C.

Examiner

Katherine A. Bareford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Claims 2 and 7 are canceled

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The RCE submission of July 25, 2005 has been received and entered.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 27, 2005 has been entered.

The after final amendment of June 27, 2005 has been entered per the request of the RCE submission of July 25, 2005.

Claim Objections

2. Claims 1 and 6 are objected to because of the following informalities: (1) in claim 1, section b) "a organic" should be "an organic" for proper grammar. (2) in claim 1, section c) "organic-solvent based liquid" should be ^e"organic solvent-based liquid" for consistency with the usage of section b) in claim 1. (3) in claim 6, line 4, "a organic" should be "an organic" for proper grammar.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 3-6 and 8-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, section b) applicant has amended the claim to require a source of "a organic solvent-based liquid coating". Similarly, in independent claim 6, at line 4, applicant has amended the claim to require the hopper to be "dimensioned for delivering a organic solvent-based liquid bead coating composition". However, these amendments are new matter. In the specification and claims as originally filed, there is no teaching that a general "organic solvent-based liquid coating" is applied. There is simply one example where a specific organic solvent is used (methyl ethyl ketone) (see page 4, lines 14-15). There is no indication that because this single solvent is used that the use of all possible organic solvents is disclosed or suggested. As a result, the use of a general "organic solvent-based liquid coating" is new matter.

5. The rejection of claims 1 and 3-5 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for bead coating, does not reasonably provide enablement for other forms of coating is withdrawn due to the amendment of June 27, 2005 to provide that the coating method of claim 1 is a bead coating method.

Claim Rejections - 35 USC § 102

6. The rejection of claims 1, 3, 5-6, 8 and 10 under 35 U.S.C. 102(a) or (e) as being anticipated by Quiel et al (US 2002/0164431) is withdrawn due to the amendments of June 27, 2005.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (US 5552188) in view of Levy (US 4428724) and Quiel et al (US 2002/0164431).

Claims 1 and 6: Suzuki teaches a method and apparatus for coating a liquid composition from an applicator to a surface of a moving web. Figure 1 and column 1,

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lines 5-10 and column 4, lines 55-65. The web is conveyed along a path through a coating apparatus. Figure 1 and column 4, lines 55-65. The coating apparatus includes a coating station for applying a coating to the surface of the web. Figure 1 and column 4, lines 55-65. The coating station includes a backing roller for supporting the web and a bead coating hopper for depositing a liquid coating on the web. Figure 1 and column 4, lines 55-65. The web is partially wrapped around the backing roller. Figure 1. A source of an organic solvent-based liquid coating composition for bead coating the web can be provided. Figure 1 and column 4, lines 5-10 and 55-65. The web is transported past the coating station, where the organic solvent based liquid composition is applied in a bead coating to the surface of the web from the coating hopper. Figure 1 and column 4, lines 55-65. No electric field is imposed between the coating hopper and the web. Figure 1 and column 4, lines 55-65 (note that no electric field is indicated as being present).

Suzuki teaches all the features of these claims except the use of the grooved backing roller and its results.

W Levy teaches that many manufacturing operations include processing rolls used to transfer heat between those rolls and the film. Column 1, lines 64-66. During high speed film processing, an air layer is trapped between the film and the roll resulting in a reduction of heat transfer therebetween. Column 1, line 64 through column 2, line 5. In order to minimize the air layer trapped between the film and the roll, a well defined microgrooved escape path for the air on the surface of the roll has been provided. Column 2, lines 5-15. 70 to 150 circumferential grooves per centimeter (7 to 15 per mm)

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are provided on the surface of the roll. Column 2, lines 15-25. The grooves have a depth greater than 0.02 mm (20 microns). Column 2, lines 25-40. Preferred grooves have a depth of about 0.08 mm (80 microns) for example. Column 2, lines 35-40.

Quiel teaches, in the background, that it is known when coating from a coating die or hopper onto a moving web substrate to precisely position and support the substrate by guiding the substrate around a rotating backing roller spaced apart from the coating device. Paragraph [0002]. Quiel further teaches that the web surfaces carry boundary layers of air, with the boundary layer on the back surface (on the side facing the backing roller) causing a problem as the web is drawn into the entrance nip formed between the web and backing roller. Paragraphs [0002] – [0003]. Quiel teaches that it is well known in the prior art to relieve the back side boundary air layer by providing any of various incuse patterns on the surface of the backing roller, including providing circumferential shallow grooves (microgrooves), citing US 4,428,724, to Levy. Paragraph [0005]. The width of the relieved surface on the backing roller is equal to or greater than the width of the liquid coating to be applied to the web. Paragraph [0040].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki to provide shallow grooves on the backing roller of the dimensions as suggested by Quiel and Levy in order to provide a desirable relieving of back side boundary air, because Suzuki teaches a bead coating process where the web passes around a rotating backing roller spaced from the coating hopper during the coating process, and Quiel teaches that when performing a bead coating

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process where the web passes around a rotating backing roller spaced from the coating hopper during the coating process it is well known to be desirable to form microgrooves on the backing roller to remove undesirable back side boundary air and cites Levy as providing such grooves, and Levy teaches desirable groove shapes for reducing back side boundary air. Furthermore, this combination would inherently provide a geometry and depth such that any temperature gradient in the web caused by the grooves in the backing roller does not disturb the coating applied by the coating apparatus. (This is shown because Levy provides ~~the greater than~~ 7-15 grooves per mm (i.e. the greater than 1.6 grooves per mm required by claim 3 of this case) and a range that includes 63 microns (0.0025 in) in depth (page 4 of specification of this case), which is the pattern taught by applicant to prevent disturbance). It would further have been obvious to modify the references to provide that the width of the relieved surface on the backing roller is equal to or greater than the width of the liquid coating to be applied to the web as provided by Quiel, because to provide the relieving over the entire dimensions of the web would provide for removal of the back side air boundary layer at all positions across the web. It would further have been obvious to modify the references to perform routine experimentation to optimize the depth and amount of the grooves for the specific coating desired, because Levy indicates that the groove depth is 20 microns or greater, and one of ordinary skill in the art would desire to provide the optimum roller for the amount of uniformity needed, thus providing a depth of 90 microns as in claims 4 and 9.

Response to Arguments

9. Applicant's arguments with respect to claims 1, 3-6 and 8-10 have been considered but are moot in view of the new ground(s) of rejection.

Suzuki and Levy, as discussed in the rejection above, have been provided as to providing the organic solvent and microgrooved roller when bead coating without the use an electric field.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KATHERINE BAREFORD
PRIMARY EXAMINER